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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/083,966	05/26/1998	NICHOLAS J. DORAN	604-445	4850

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EXAMINER	
PHAN, HANH	
ART UNIT	**PAPER NUMBER**
2638	

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/083,966	DORAN ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 1998*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10,11,43-45 and 47-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10,11,43-45 and 47-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office Action is responsive to the Amendment filed on 02/22/2005.

2. The indicated allowability of claims 10, 11, 43-45 and 47-58 is withdrawn in view of the newly discovered reference(s) to Doran et al (US Patent No. 6,650,452), Doran et al (US Patent No. 6,738,542), Doran et al (US Patent No. 6,321,015) and Doran et al (Pub. No.: US 2004/0105685 A1). Rejections based on the newly cited reference(s) follow.

Specification

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(f) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 10, 11, 43-45 and 47-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,650,452 (Doran et al). Although the conflicting claims

are not identical, they are not patentably distinct from each other because the limitations recited in claims 10, 11, 43-45 and 47-58 of the instant application are encompassed by claims 1-17 of U.S. Patent No. 6,650,452 (Doran et al).

Regarding claim 10, Doran et al (US Patent No. 6,650,452) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of dispersion elements, the plurality of elements including at least a fiber lengths and a discrete dispersion compensator, the fiber length and discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous (see claims 1 and 6-12 of US Patent No. 6,650,452).

Regarding claim 11, Doran et al (US Patent No. 6,650,452) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the discrete dispersion compensators is zero or anomalous (see claims 1 and 6-12 of US Patent No. 6,650,452).

Regarding claim 43, Doran et al (US Patent No. 6,650,452) discloses an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of a stable or quasi-stable optical pulse, and wherein the optical pulse has a time-bandwidth product greater than a time-bandwidth product of an optical pulse that is Gaussian in shape (see claims 1-12 of US Patent No. 6,650,452).

Regarding claim 44, Doran et al (US Patent No. 6,650,452) discloses wherein the optical pulse alternately expands and compresses as it propagates through the sections (see claims 1 and 6-12 of US Patent No. 6,650,452).

Regarding claim 45, Doran et al (US Patent No. 6,650,452) discloses wherein the path average dispersion of the plurality of sections is zero or anomalous (see claims 1 and 6-12 of US Patent No. 6,650,452).

Regarding claims 47-49, it would have been obvious to obtain the difference between the dispersion magnitudes of the two dispersion elements is less than 12ps/Km in order to compensate the dispersion of the signal.

Regarding claims 50-55, Doran et al (US Patent No. 6,650,452) discloses wherein the two dispersion elements of a section comprise an optical fiber length and a discrete dispersion compensator (see claims 1 and 6-12 of US Patent No. 6,650,452).

Regarding claim 56, Doran et al (US Patent No. 6,650,452) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of dispersion elements, the plurality of elements including at least a fiber length and a discrete dispersion compensator, the fiber length and the discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 1 and 6-12 of US Patent No. 6,650,452).

Regarding claim 57, Doran et al (US Patent No. 6,650,452) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the plurality of discrete dispersion compensators is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 1 and 6-12 of US Patent No. 6,650,452).

Regarding claim 58, Doran et al (US Patent No. 6,650,452) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of corresponding stable or quasi-stable optical pulses, and wherein the stable or quasi-stable optical pulses have a time-bandwidth product greater than a time bandwidth product of optical pulses that are Gaussian in shape (see claims 1-12 of US Patent No. 6,650,452).

6. Claims 10, 11, 43-45 and 47-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,738,542 (Doran et al). Although the conflicting claims

are not identical, they are not patentably distinct from each other because the limitations recited in claims 10, 11, 43-45 and 47-58 of the instant application are encompassed by claims 1-32 of U.S. Patent No. 6,738,542 (Doran et al).

Regarding claim 10, Doran et al (US Patent No. 6,738,542) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of dispersion elements, the plurality of elements including at least a fiber lengths and a discrete dispersion compensator, the fiber length and discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claim 11, Doran et al (US Patent No. 6,738,542) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the discrete dispersion compensators is zero or anomalous (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claim 43, Doran et al (US Patent No. 6,738,542) discloses an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of a stable or quasi-stable optical pulse, and wherein the optical pulse has a time-bandwidth product greater than a time-bandwidth product of an optical pulse that is Gaussian in shape (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claim 44, Doran et al (US Patent No. 6,738,542) discloses wherein the optical pulse alternately expands and compresses as it propagates through the sections (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claim 45, Doran et al (US Patent No. 6,738,542) discloses wherein the path average dispersion of the plurality of sections is zero or anomalous (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claims 47-49, it would have been obvious to obtain the difference between the dispersion magnitudes of the two dispersion elements is less than 12ps/Km in order to compensate the dispersion of the signal.

Regarding claims 50-55, Doran et al (US Patent No. 6,650,452) discloses wherein the two dispersion elements of a section comprise an optical fiber length and a discrete dispersion compensator (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claim 56, Doran et al (US Patent No. 6,738,542) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of dispersion elements, the plurality of elements including at least a fiber length and a discrete dispersion compensator, the fiber length and the discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claim 57, Doran et al (US Patent No. 6,738,542) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the plurality of discrete dispersion compensators is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

Regarding claim 58, Doran et al (US Patent No. 6,738,542) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of corresponding stable or quasi-stable optical pulses, and wherein the stable or quasi-stable optical pulses have a time-bandwidth product greater than a time bandwidth product of optical pulses that are Gaussian in shape (see claims 1-2 and 23-25 of US Patent No. 6,738,542).

7. Claims 10, 11, 43-45 and 47-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,321,015 (Doran et al). Although the conflicting claims

are not identical, they are not patentably distinct from each other because the limitations recited in claims 10, 11, 43-45 and 47-58 of the instant application are encompassed by claims 1-17 of U.S. Patent No. 6,321,015 (Doran et al).

Regarding claim 10, Doran et al (US Patent No. 6,321,015) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of dispersion elements, the plurality of elements including at least a fiber lengths and a discrete dispersion compensator, the fiber length and discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 11, Doran et al (US Patent No. 6,321,015) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the discrete dispersion compensators is zero or anomalous (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 43, Doran et al (US Patent No. 6,321,015) discloses an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of a stable or quasi-stable optical pulse, and wherein the optical pulse has a time-bandwidth product greater than a time-bandwidth product of an optical pulse that is Gaussian in shape (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 44, Doran et al (US Patent No. 6,321,015) discloses wherein the optical pulse alternately expands and compresses as it propagates through the sections (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 45, Doran et al (US Patent No. 6,321,015) discloses wherein the path average dispersion of the plurality of sections is zero or anomalous (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claims 47-49, it would have been obvious to obtain the difference between the dispersion magnitudes of the two dispersion elements is less than 12ps/Km in order to compensate the dispersion of the signal.

Regarding claims 50-55, Doran et al (US Patent No. 6,321,015) discloses wherein the two dispersion elements of a section comprise an optical fiber length and a discrete dispersion compensator (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 56, Doran et al (US Patent No. 6,321,015) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of dispersion elements, the plurality of elements including at least a fiber length and a discrete dispersion compensator, the fiber length and the discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 57, Doran et al (US Patent No. 6,321,015) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the plurality of discrete dispersion compensators is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 58, Doran et al (US Patent No. 6,321,015) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of corresponding stable or quasi-stable optical pulses, and wherein the stable or quasi-stable optical pulses have a time-bandwidth product greater than a time bandwidth product of optical pulses that are Gaussian in shape (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

8. Claims 10, 11, 43-45 and 47-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of copending Application No. 10/713,037 (Doran et

al). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 10, 11, 43-45 and 47-58 of the instant application are encompassed by claims 1-2 of copending Application No. 10/713,037 (Doran et al).

Regarding claim 10, Doran et al (copending Application No. 10/713,037) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of dispersion elements, the plurality of elements including at least a fiber lengths and a discrete dispersion compensator, the fiber length and discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous (see claims 8-9 and 13-17 of copending Application No. 10/713,037).

Regarding claim 11, Doran et al (copending Application No. 10/713,037) discloses an optical communication system for transmitting a soliton or soliton-like pulse, comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the discrete dispersion compensators is zero or anomalous (see claims 8-9 and 13-17 of copending Application No. 10/713,037).

Regarding claim 43, Doran et al (copending Application No. 10/713,037) discloses an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of a stable or quasi-stable optical pulse, and wherein the optical pulse has a time-bandwidth

product greater than a time-bandwidth product of an optical pulse that is Gaussian in shape (see claims 8-9 and copending Application No. 10/713,037).

Regarding claim 44, Doran et al (copending Application No. 10/713,037) discloses wherein the optical pulse alternately expands and compresses as it propagates through the sections (see claims 8-9 and 13-17 of copending Application No. 10/713,037).

Regarding claim 45, Doran et al (copending Application No. 10/713,037) discloses wherein the path average dispersion of the plurality of sections is zero or anomalous (see claims 8-9 and 13-17 of copending Application No. 10/713,037).

Regarding claims 47-49, it would have been obvious to obtain the difference between the dispersion magnitudes of the two dispersion elements is less than 12ps/Km in order to compensate the dispersion of the signal.

Regarding claims 50-55, Doran et al (copending Application No. 10/713,037) discloses wherein the two dispersion elements of a section comprise an optical fiber length and a discrete dispersion compensator (see claims 8-9 and 13-17 of copending Application No. 10/713,037).

Regarding claim 56, Doran et al (copending Application No. 10/713,037) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of dispersion elements, the plurality of elements including at least a fiber length and a discrete dispersion compensator, the fiber length and

the discrete dispersion compensator having different dispersions, wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 8-9 and 13-17 of copending Application No. 10/713,037).

Regarding claim 57, Doran et al (US Patent No. 6,321,015) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of discrete dispersion compensators, at least two of which have different dispersions, wherein the path average dispersion of the plurality of discrete dispersion compensators is zero or anomalous, such that the optical pulses are transmitted as soliton or soliton-like pulses (see claims 8-9 and 13-17 of US Patent No. 6,321,015).

Regarding claim 58, Doran et al (copending Application No. 10/713,037) discloses a method of optical communication comprising:

generating a plurality of optical pulses; and

launching the plurality of optical pulses through an optical communication system comprising a plurality of sections, each section including at least two dispersion elements that have dispersions of opposite sign, wherein the plurality of sections permits propagation of corresponding stable or quasi-stable optical pulses, and wherein the stable or quasi-stable optical pulses have a time-bandwidth product greater than a time bandwidth product of optical pulses that are Gaussian in shape (see claims 8-9 and 13-17 of copending Application No. 10/713,037).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 10, 11, 43-45 and 47-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al (Electronics Letters, Vol. 31, No. 3, pp. 216-217, cited by applicant) in view of Ishikawa et al (US Patent No. 5,717,510).

Regarding claims 10, 11, 43-45 and 50-58, referring to Figure 1, Nakazawa teaches an optical communication system for transmitting a soliton or soliton-like pulse, comprising:

a plurality of dispersion elements and the plurality of dispersion elements including fiber lengths having different dispersions (i.e., a plurality of fiber lengths L of opposite sign dispersion, Fig. 1);

wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous (see Fig. 1 and pages 216 and 217 of Nakazawa).

Nakazawa differs from claims 10, 11, 43-45 and 50-58 that he fails to teach discrete dispersion compensators. However, Ishikawa in US Patent No. 5,717,510 teaches an optical communication system having one or more discrete

dispersion compensators (see Figs. 14, 17, 19, 35, 42, 43, 46 49, and 52, col. 16, lines 65-67, col. 17, lines 1-6, col. 21, lines 35-41). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the discrete dispersion compensators as taught by Ishikawa in the system of Nakazawa. One of ordinary skill in the art would have been motivated to do this since Ishikawa suggests in column 16, lines 65-67, col. 17, lines 1-6, col. 21, lines 35-41 that using such the discrete dispersion compensators have advantage of allowing compensating the dispersion of the signal.

Regarding claims 47-49, it would have been obvious to obtain the difference between the dispersion magnitudes of the two dispersion elements is less than 12ps/Km in order to compensate the dispersion of the signal.

10. Claims 10, 11, 43-45 and 47-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al (Electronics Letters, Vol. 31, No. 3, pp. 216-217, cited by applicant) in view of Kikuchi et al (US Patent No. 5,606,445).

Regarding claims 10, 11, 43-45 and 50-58, referring to Figure 1, Nakazawa teaches an optical communication system for transmitting a soliton or soliton-like pulse, comprising:

a plurality of dispersion elements and the plurality of dispersion elements including fiber lengths having different dispersions (i.e., a plurality of fiber lengths L of opposite sign dispersion, Fig. 1);

wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous (see Fig. 1 and pages 216 and 217 of Nakazawa).

Nakazawa differs from claims 10, 11, 43-45 and 50-58 that he fails to teach discrete dispersion compensators. However, Kikuchi in US Patent No. 5,606,445 teaches an optical communication system having one or more discrete dispersion compensators (see Figs. 10 and 11, col. 7, lines 52-57 and col. 8, lines 1-57). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the discrete dispersion compensators as taught by Kikuchi in the system of Nakazawa. One of ordinary skill in the art would have been motivated to do this since Kikuchi suggests in column 7, lines 52-57 and col. 8, lines 1-57 that using such the discrete dispersion compensators have advantage of allowing compensating the dispersion of the signal.

Regarding claims 47-49, it would have been obvious to obtain the difference between the dispersion magnitudes of the two dispersion elements is less than 12ps/Km in order to compensate the dispersion of the signal.

11. Claims 10, 11, 43-45 and 47-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al (Electronics Letters, Vol. 31, No. 3, pp. 216-217, cited by applicant) in view of Dugan (US Patent No. 5,218,662).

Regarding claims 10, 11, 43-45 and 50-58, referring to Figure 1, Nakazawa teaches an optical communication system for transmitting a soliton or soliton-like pulse, comprising:

a plurality of dispersion elements and the plurality of dispersion elements including fiber lengths having different dispersions (i.e., a plurality of fiber lengths L of opposite sign dispersion, Fig. 1);

wherein the path average dispersion of the plurality of dispersion elements is zero or anomalous (see Fig. 1 and pages 216 and 217 of Nakazawa).

Nakazawa differs from claims 10, 11, 43-45 and 50-58 that he fails to teach discrete dispersion compensators. However, Dugan in US Patent No. 5,218,662 teaches an optical communication system having one or more discrete dispersion compensators (see Figs. 1 and 2, and see from col. 2, line 23 to col. 4, line 32). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the discrete dispersion compensators as taught by Dugan in the system of Nakazawa. One of ordinary skill in the art would have been motivated to do this since Dugan suggests in column 2, line 23 to col. 4, line 32 that using such the discrete dispersion compensators have advantage of allowing compensating the dispersion of the signal.

Regarding claims 47-49, it would have been obvious to obtain the difference between the dispersion magnitudes of the two dispersion elements is less than 12ps/Km in order to compensate the dispersion of the signal.

Response to Arguments

12. Applicant's arguments with respect to claims 10, 11, 43-45 and 47-58 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

HANH PHAN
PRIMARY EXAMINER